

ON SOME DIPLOPTERYGA FROM THE SOUTHWEST OF NORTH AMERICA

P. CAMERON.

Nortonia acanthopus Cam.

A female of what is doubtless this species from Lee county, Texas, (Birkman), has an oblique longish mark or line on the top of the basal slope of the first abdominal segment on the sides, and the mark on the sides of the metanotum is larger and wider, covering the apical half of the sides.

Ancistrocerus pilias Cam.

A specimen of this species from the mountains near Claremont, California, has the two large marks of the second abdominal segment of the type, united into one broad yellow band; the other markings are larger.

Ancistrocerus howardi sp. nov.

Black, the head and thorax covered densely with fuscous pubescence, the clypeus except for a wide mark down the center of the upper half, a small triangular mark on the base of the mandibles, a mark not much wider than long over the antennae, a short line on upper part of outer orbits, a line on the basal third of pronotum narrowed in the center, a broad line on the scutellum roundly narrowed at the base and nearer the apex than the base of the scutellum, postscutellum, a line on the apex of the first abdominal segment broadly dilated backwards to the suture on the sides, a line all around on the second and fourth, and one on the top of the fifth segment, the apices of the femora broadly, and the tibiae, bright orange yellow; the tarsi rufofulvous; the tegulae of a paler yellow, with a fuscous spot in the center. Wings hyaline, the radial cellule smoky, the costa and nervures black, the stigma dark fuscous. Female, length to end of second segment 8 mm. Lee county, Texas, (Birkman).

Metanotum bordered all around with a stout keel, there being also a keel down the center; the keels at the top curve down obliquely to unite with the central keel, at the sides below is a leaf-like expansion. Clypeus broad, pyriform, strongly punctured, the apex transverse. Antennal scape yellow except above and there is a small yellow spot at its outer side; the flagellum is brownish below. Base of thorax almost transverse, the sides rounded, not projecting. Apex of postscutellum almost transverse. First abdominal segment longish cup-shaped, the base triangular, flat, smooth and shining, the second

segment narrowed at the base, distinctly longer than it is wide at the apex, which is flat.

Belongs to Saussure's Section I. It comes near *A. trichionotus* Cam., but is more slenderly built, is not so densely pilose, and the mark on the clypeus of *trichionotus* is much larger, triangular, and united by a narrow line to the apex; the thorax in the latter, too, is wider compared with the length.

***Odynerus approximatus* Cam.**

This species comes close to *O. medius* Cam. from California. The females may be separated thus:

- A. Clypeus longer than wide, a broad black mark down the center, commencing behind the middle and continued to the apex, the yellow mark on postscutellum rounded at apex, the oblique line on first abdominal segment longish, of equal width, the second abdominal segment fully as long as wide. *approximatus.*
- AA. Clypeus as wide as long, the center only marked with black, the yellow mark on postscutellum completely transverse at apex, the oblique line on first abdominal segment broad, narrowed on inner side, the second abdominal segment longer than wide. *medius.*

***Odynerus macfarlandi* sp. nov.**

Black, a curved band slightly wider than the antennal scape on the top of the clypeus, small irregular spot on the front, one on the base of the mandibles, a small spot on the top of the outer orbits, a line on the basal fourth of the pronotum, a conical mark below the tegulae a little longer than wide, the entire postscutellum, a line on the sides of the metanotum, its spines, lines on the basal five abdominal segments at the apices, a semi-circular large mark on the sixth, and the apices of the second to fourth ventral segments, yellow. The apices of the femora narrowly and the tibiae yellow; the base and apex of the hind tibiae and the tarsi rufo-fulvous. Wings hyaline, iridescent, darker colored in front, the radial cellule violaceous, the stigma dark fuscous, the nervures black. Tegulae pale yellow, with the usual fuscous spot. Female, length 8 mm. Sapello Cañon, New Mexico, (Osler).

Closely strongly punctured, sparsely pilose, the metapleurae closely weakly obliquely striated. Clypeus pyriform, longer than wide, its apex with a distinct but not deep rounded incision. Temples broad, rounded, nearly as long as the top of the eyes. Thorax more than twice longer than wide, the base transverse, not projecting laterally; the apex with the sides bluntly rounded, the center very little depressed, the lateral keels large, curved, more prominent than usual. Postscutellum gradually obliquely narrowed to a bluntly rounded point. First abdominal segment, longish, cup-shaped, longer than it is wide at the apex, the base narrowed to a point. Second segment clearly longer than wide, narrowed at the base, the apex more strongly punctured than the rest, with a narrow smooth border.

A narrow slender species, showing an approach to *Nortonia*. It is not unlike *O. acanthopus* Cam., and has, like that species, a blunt tooth on the top

of the hind coxae, but in other respects it is very different. The species with the coxae spined appear to have the first abdominal segment longer than usual, e. g. *O. acanthopus* Cam., and *O. austrinus* Cr. *O. austrinus* Cr. has a distinct curved spine on the hind coxae, narrowed towards the apex.

***Odynerus blakeanus* sp. nov.**

Black, the clypeus except narrowly around the apex and two small spots in the middle, a small semi-circular mark on the front, a short line behind the top of the eyes, underside of antennal scape, a large irregular triangular mark on the base of the sides of pronotum, an irregular mark as large as the tegulae at the base of mesopleurae above, a small irregular mark on the sides of the scutellum in the center, postscutellum, a small irregular mark on the sides of the metanotum at the base, the first abdominal segment from the top of the apical slope, an irregular mark on the sides of the second segment near the base, the apices of the second to fifth segments somewhat broadly, the apices of the second to fourth ventrals more narrowly, and the sides of the fifth, lemon-yellow. The first abdominal segment is yellow from the top of the apical slope, except for an irregular mark which at the base is slightly more than one-third the width of the segment, beyond this dilated into a longish line from the inner part of which it becomes gradually narrowed to a fine point, which does not extend near to the apex. Apices of the femora broadly, and the tibiae, yellow, the tarsi rufous. Wings smoky violaceous, more deeply so in front than elsewhere, the nervures and stigma black. Female, length 12 mm. Lee county, Texas, April.

Head and thorax densely covered with longish fuscous pubescence, closely strongly punctured, the clypeus less closely than the rest of the head, and the latter more closely than the thorax, the metapleurae opaque, bare, and alutaceous. Clypeus as long as wide, rounded above, the apex depressed, transverse. Temples broad, rounded, not much narrowed. Base of thorax almost transverse, the sides of the apex rough, almost margined, the center hardly depressed, somewhat coarsely obliquely striated. Apex of postscutellum broadly roundly narrowed and smooth. First abdominal segment large, cup-shaped, the basal slope weakly and sparsely punctured compared with the apex in the center of which is a narrow longitudinal furrow. The second segment is slightly longer than wide, weakly punctured, the apex more strongly and closely punctured, not reflexed, the third to fifth more coarsely punctured.

Allied to *O. arvensis* Sauss. Apart from the differences in coloration—the presence of a yellow mark on the sides of the second abdominal segment, there being only two small marks on the clypeus, etc.—*arvensis* may be known by the shorter second abdominal segment and by its being strongly depressed and punctured in the center behind the apical line. The mandibles in *blakeanus* are black save for a small yellow mark near the base; in *arvensis* they are for the greater part rufous.

***Odynerus* (?) *bradleyi* sp. nov.**

Black, the clypeus, a narrow line on the lower half of the upper inner orbits reaching to the lower edge of the incision, a similar line on the upper half of the outer, the base of the prothorax broadly, this mark extending close to the apex of the propleurae where it is narrowed, a narrow line on the lower edge of the propleurae, a large oblique spot widest above on the base of mesopleurae above, a broad band on apex of postscutellum, a large irregular mark on the sides of apical slope of the metanotum, an irregularly oval mark on the sides of the base of first abdominal segment, the band dilated laterally, and broad bands on the following five segments, bright yellow. The lower edge of the segment on the lower basal half between the yellow and a large mark on the sides of the basal half of the second segment, rufous. Coxae black, the trochanters and femora reddish fulvous, the tibiae red, the tarsi yellow edged with fulvous. Antennal scape yellow below, the flagellum reddish brown below, the apical joints marked with black at the apex, the last rounded above, flat below, roundly narrowed at the apex. Wings fulvous hyaline, the apex smoky, the costa and nervures fulvous. Female, length 13 mm. Collected at Durango, Colorado, by Oslar.

Clypeus not much longer than wide, the top dilated broadly in the middle, the apex with a shallow incision. Antennae longish, stout, dilated towards the apex. Front and vertex closely not very strongly punctured, densely covered with long fuscous pubescence. Temples obliquely narrowed. Pronotum roundly narrowed from the apex to the base, which is keeled, transverse and slightly projecting at the angles. Mesothorax closely strongly punctured, a smooth line down the center of the base, and the two short furrows on the apex. Apex of postscutellum steeply sloped, transverse, smooth and shining. Metanotum short, its sides broadly rounded. Base of metapleurae smooth, irregularly striated below, the apex aciculated and sparsely punctured. First abdominal segment cup-shaped, large, a short but distinct neck at the base, the second is as wide as long and narrowed at the base, both are sparsely weakly punctured, more strongly at the apex. Mandibles reddish at the apex, a yellow spot at their base. Head as wide as the thorax. The thorax is distinctly longer than wide, and is narrowed posteriorly. The whole body is longer than usual with the *Odynerina*. The species may be an *Epiponus* to which it has a greater resemblance than to *Odynerus* proper or to *Pachodynerus*.

***Odynerus* *bruesi* sp. nov.**

Black, the basal segment of the abdomen red, the clypeus except around apex, underside of antennal scape, the outer edge of tegulae, two irregular spots on the apex of scutellum, a triangular spot below the tegulae, its sides rounded, and narrow bands on the apices of the basal three abdominal segments (that on the first with a shorter black line in front), pale yellow. The apex of the femora and the outer side of the tibiae pale yellow. Wings hyaline, the stigma and nervures black. Male, length * mm. Claremont, California (Baker).

Base of the thorax stoutly obliquely distinctly projecting laterally, the projection longer than it is thick at the base, narrowed and rounded at the apex. Clypeus clearly broader than long, rounded broadly above and below, widest in the middle, the top not so broad as the bottom. Head and thorax closely punctured, except the metapleurae which are aciculated, sparsely punctured, and obscurely striated. Postscutellum strongly punctured at the base, the rest smooth and shining; it has an oblique slope and its apex is broadly rounded. First abdominal segment cup-shaped, strongly punctured, especially before the apex, which is smooth and raised. The second segment is less strongly, but more closely punctured, except at the apex, which is slightly raised. The other segments are more closely punctured. Antennal hook black, not quite reaching to the apex of the last joint. Trophi long, reaching beyond the middle coxae.

***Odynerus tosquineti* sp. nov.**

Black, the abdomen rufous, the clypeus, mandibles except at apex, underside of antennal scape, a broad line narrowed in the middle on the apex of pronotum, tegulae except for a fuscous spot in the middle, scutellum broadly, a large spot below the tegulae longer than wide, transverse above and rounded and narrowed below, a broad line on the top of the first abdominal segment, a broader one on the second, all around, considerably dilated above, the apex of the femora narrowly and the greater part of the tibiae, whitish yellow. Flagellum of antennae brownish red, darker at the apex above. Wings hyaline, the stigma fuscous, the nervures blackish. Male, length 5 mm. Claremont, California (Baker).

Front and eye incision densely covered with silvery pubescence, the rest of the head and body with shorter and sparser silvery pubescence. Head and thorax strongly punctured, the puncturation on the pronotum and clypeus sparser and weaker on the metathorax than on the mesothorax, the lower part of the metapleurae almost smooth. The apical slope of the median segment is red, as is also the apex of the metapleurac. Clypeus longer than wide, rounded above, the apex with a V-shaped incision. Base of thorax not quite transverse, being slightly dilated in the middle, the sides are almost rounded. Postscutellum large, transverse at the apex. The sides of metanotum rounded and with two pale teeth. The apices of the two basal segments of the abdomen are slightly raised, closely and strongly punctured, the first is sup-shaped, the second about one-fourth longer than it is wide, its apex more strongly punctured than the rest. The antennae are thicker than usual, the hook black and reaching to the apex of the last joint. The second abdominal segment is not much narrowed at the base. The four anterior tibiae are broadly lined with black behind; so also are the posterior, which have besides a line on the innerside. The apical segments of the abdomen are darker colored than the basal two.

***Odynerus acuticarinatus* sp. nov.**

Black, two curved lines or spots on the top of the clypeus at the sides, a narrow indistinct line across the base of the pronotum, a narrow but distinct

one along the sides, and the postscutellum at the base, pale yellow. The upper angles of the metanotum and broad bands on the apices of the second and following abdominal segments, pale orange yellow. The wings hyaline, the costa, stigma, and nervures fulvous, the latter darker at the apex of the wings. Abdomen smooth silky pruinose, the head sparsely covered with short black pubescence, the thorax with short pale pubescence. Head, prothorax, and mesothorax strongly closely punctured, the head less strongly than the thorax. Clypeus slightly longer than its greatest width, the apex slightly roundly incised, the sides broadly rounded and lined with yellow. Base of thorax transverse, the sides not angled. Postscutellum smooth, the apex transverse. Upper half of the sides of metanotum with a distinct keel, the upper part of the metanotum obscurely reticulated, the rest for the most part finely transversely striated, the upper part of the metapleurae reticulated, the rest finely closely longitudinally striated. Propleurae finely aciculated with scattered punctures, shortly above the middle of the basal half is a wide furrow. The apex of the second and following segments are closely strongly punctured. The last ventral segment is entirely orange yellow, and the second and following segments are broadly banded with that color. Female, length 12 mm. Nogales, Arizona, (Oslar).

Belongs to the group of *O. nasidens*, but the head and thorax are not densely pilose. The wings too are hyaline.

***Odynerus pallidipictus* sp. nov.**

Black, densely covered with a white pruinosity which gives it a greyish appearance. The top of the clypeus to shortly below the middle, two small lines on the apex, a spot on the base of the mandibles, a longish line above the antennae which is slightly gradually narrowed below and transverse at the top and bottom, the inner side of the eye incision, a line on the top of the outer side of the eye orbits a mark near the apex of mesonotum, postscutellum, a broad line on the upper lateral half of metanotum, a large wide conical mark below the tegulae, a band on the first abdominal segment, a large transversely oval mark on the sides of the base of the second segment, a broad irregular band on its apex and a narrow one on the third and fourth segments all around, pale yellow. Tegulae reddish, pale at the base and apex. Under side of antennal scape yellow, the flagellum rufous below. Legs bright red, the coxae black, the tibiae broadly yellow at the base. The apex of the second abdominal segment is more strongly punctured than the rest. Wings hyaline. Female, length 8 mm. Hot Springs, Arizona, (Oslar).

There is a specimen from Albuquerque, New Mexico, which agrees in structure and form with the above, but has no mark on the mesonotum, the frontal mark is smaller, and the others larger. In coloration the species is almost identical with *O. vegasensis* Cam., but that species is easily separated by the incised apex of the clypeus. In *pallidipictus* the head and thorax are closely strongly punctured, the punctures sparser on the base of the metapleurae, the apex of the clypeus is depressed in the center, the base of the

postscutellum is broadly raised, and its apex not transverse, the sides of the metanotum are rounded but not broadly, and the base of the first abdominal segment is roughened.

***Pterochilus luteicollis* sp. nov.**

Luteous, the front except for a small transverse spot over the antennae, vertex, the hinder part of the head except for a broad line behind the eyes narrowed above and below, mesonotum, the base and apex of scutellum and a line down its middle, a line on the base of the metanotum gradually widened to the middle and one down the middle dilated at the apex, a broad line on the lower basal half of the propleurae, the lower part of mesopleurae, a broad line on the upper two-thirds of the apex, mesosternum, the base of metapleurae broadly above and gradually narrowed below, the extreme base of first abdominal segment (from this a narrow line runs, uniting the basal line to an irregular large mark which becomes gradually widened to the middle, then slightly narrowed to the apex which is transverse), an irregular ragged line on the base of the second segment united by a narrow line to a broad transverse one, distinct laterally narrowed lines on the base of third and fourth segments, and irregular tripartite lines on the basal three or four ventral segments, black. Legs colored like the body, their bases irregularly marked with black, the tarsi tinged with rufous. Wings hyaline, the anterior distinctly tinged with fulvous, the nervures and stigma fulvous. The antennal scape below, mandibles except at the apex and a line on the lower side of the eye orbits, yellow. Female, length 14-20 mm. Ormsby county, Nevada, (Baker), small form; Claremont, California, (Baker), large form.

Densely covered with short pale fuscous pubescence, longest and densest on the head, shorter and sparser on the abdomen. Clypeus clearly broader than long, strongly but not closely punctured, gradually narrowed from the eyes to the apex, which is rufous and transverse. Front, vertex and thorax closely punctured, the mesopleurae with the punctures more widely separated, the metanotum almost smooth, its sides broadly rounded, the metapleurae smooth. Abdomen almost impunctate except on the penultimate segment, which is weakly, and the last which is strongly, but not closely punctured. Tibial and tarsal spines numerous, short thick and rufous. Base of the thorax transverse, the edges slightly projecting.

The smaller example from Nevada has the black color more extended all over, the scutellum is black except for a lateral spot on the basal half, the pleurae are for the greater part black (not for the greater part yellow as in the larger specimen), the black marks on the basal two abdominal segments are larger and irregular as in the type.

***Pterochilus flavobalteatus* sp. nov.**

Black, the clypeus, mandibles except at the apex, a broad line on the lower side of the eye incision, a small spot between the antennae, a broad line on the upper half of the outer orbits, a line on the pronotum broadly dilated on to the upper half of the pleurae, tegulae, two irregular spots on the scutellum, post-

scutellum, the sides of the median segments largely, a large broad conical mark on the base of the mesopleurae, a smaller irregular one below it, broad bands on the five basal abdominal segments, and all of the apical segment, bright yellow. Antennal scape yellow, black above, the flagellum orange-red, the apical half black above. Legs black, the fore femora except broadly on top at the base, the middle femora except at the apex, the posterior femora more narrowly, and the tibiae and tarsi, yellow. Wings fulvous hyaline, the apex fuscous-violaceous, the stigma and nervures fulvous. Female length 8 mm. Durango, Colorado, (Oslar).

Front and vertex strongly coarsely punctured, the clypeus much more sparsely and weakly punctured and surrounded by a black line, except on the transverse apex, which is fulvous. Occiput distinctly roundly excised. Base of thorax transverse, the sides hardly projecting. Apex of postscutellum broadly rounded. Propleurae irregularly obliquely striated, the mesopleurae strongly punctured with a large closely striated triangular space at the apex, the metapleurae smooth with the apex irregularly punctured. Abdomen closely somewhat strongly punctured. Apex of tibiae and the apices of the tarsal joints with rufous spines.